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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,097	01/18/2006	Marijke De Meyer	505217	7358

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EXAMINER	
WALTERS JR, ROBERT S	

ART UNIT	PAPER NUMBER
1711	

NOTIFICATION DATE	DELIVERY MODE
05/24/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

RockMail@reinhartlaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,097	DE MEYER ET AL.	
	Examiner	Art Unit	
	ROBERT S. WALTERS JR	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-27* is/are pending in the application.

4a) Of the above claim(s) *19,21 and 24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-18,20,22,23 and 25-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/8/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

Claims 13-27 are pending. Claims 19, 21 and 24 are withdrawn. Claims 13-18, 20, 22, 23 and 25-27 are presented for examination.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/8/2010 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 13-18, 20, 22, 23 and 25-27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 13-15, 17, 18, 20, 22, 23, 25, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke (DE19527515) in view of Suemitsu et al. (U.S. Pat. No. 5049453).

I. Regarding claims 13-15, 17, 18, 20, 25, and 26, Goedicke teaches a method for the production of metal coated steel sheet products (abstract) comprising the steps of providing a steel product with a Zn coating (abstract), subjecting the product to a plasma treatment (though it doesn't seem to explicitly disclose it being performed under vacuum, it would be readily

apparent to one of ordinary skill in the art at the time of the invention to perform this treatment under vacuum, as it is well known in the art to carry out plasma treatments under vacuum in a chamber) to prepare the material (this would necessarily clean and activate the surface of the material, see pg 2 of machine translation, 11th paragraph) prior to adding an additional metallic element, then adding an additional metallic element to the coating (abstract) by diffusing the element into the metallic coating (paragraphs 10 and 11 on page 2), that additional element potentially being magnesium (pg 2 of machine translation, 10th paragraph, this inherently being a reflectivity reducing agent) through a physical vapor deposition technique, specifically sputtering (abstract), and finally subjecting the product to a thermal treatment under an inert atmosphere (abstract) prior to any application of an organic coating on the metal coated surface.

Goedicke fails to teach the thermal treatment being applied by directing high energy infra red radiation towards the outer surface of said coating to diffuse the metallic element into the metallic coating without affecting an interface between the steel substrate and the metallic coating.

Suemitsu teaches a method of diffusing an additional metallic element into a zinc coating (column 15, lines 23-52) on a metal sheet (abstract) comprising using infra red radiation (column 15, line 60) which would be directed to the outer surface of the coating and would not affect the interface between the steel substrate and the metallic coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke's method of producing a steel product by implementing Suemitsu's thermal diffusing step as the thermal treatment. One would have been motivated to make this substitution as one having ordinary skill in the art could have made this substitution with a reasonable expectation of

success (particularly given that Suemitsu teaches that IR heating can be used for diffusion of an additional element into a metallic coating), and the predictable result of providing a intermetallic compound by diffusing the additional metallic element into the zinc coating.

II. Regarding claims 22 and 23, Goedicke in view of Suemitsu teach all the limitations of claims 13 and 20, but fail to teach the radiation being directed to both sides of the sheet for 3-8 seconds with an energy density of at least 400 kW/m^2. However, these variables would obviously adjust the length of heating time required and the degree to which the additional metal diffuses into the zinc coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

III. Regarding claim 27, Goedicke teaches the method of claim 13, comprising an apparatus for accomplishing the method having means for performing a plasma treatment (pg 2 of machine translation, 11^{th} paragraph), means for adding an additional element to said coating by using a physical vapour deposition technique (abstract). Goedicke fails to teach means for directing high energy infra red radiation. Suemitsu teaches these means (see above). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke's method with Suemitsu's means for the reasons and motivation outlined previously.

2. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Suemitsu as applied to claim 13 above, and further in view of Shimogori et al. (U.S. Pat. No. 5002837, hereinafter referred to as Shimogori).

Regarding claim 15, Goedicke in view of Suemitsu teach all the limitations of claim 13 and further teach that the additional metallic element is added through sputtering (abstract). Goedicke in view of Suemitsu may fail to teach the additional metallic element being Mg that is required by instant claim 15.

Shimogori teaches the coating of a Zn-Mg alloy layer over steel sheets (column 7, lines 3-9), demonstrating the benefits of adding Mg as an additional element to a zinc coating on a steel substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view Suemitsu's method for the production of a metal coated steel product with Shimogori as the addition of Mg as suggested by Shimogori would provide an improved metal coated steel product. One would have been motivated to make this modification as Shimogori teaches that Zn-Mg alloy plating layers show outstanding corrosion resistance, adhesion to the steel surface, and improved formability (column 7, lines 3-16).

3. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Suemitsu as applied to claim 13 above, and further in view of Spence (U.S. Pat No. 6059935).

Regarding claim 16, Goedicke in view of Suemitsu teach all the limitations of claim 13, but fail to disclose the plasma treatment being a dielectric barrier discharge treatment taking

place at a pressure of between 0.1 bar and 1 bar, under an atmosphere consisting of nitrogen or nitrogen and hydrogen that is required by instant claim 16.

Spence teaches a method of generating a plasma (abstract), near atmospheric pressure (abstract, though the claimed range is not explicitly taught it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through routine optimization), which is generated by a dielectric barrier discharge method (abstract and Figure 1) which may be conducted under a nitrogen atmosphere (column 3, lines 20-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view of Suemitsu's method with the plasma treatment as suggested by Spence as it would allow for the treatment to be performed near atmospheric pressure. One would have been motivated to make this modification as Spence teaches that the amount of time in performing the treatment is reduced (abstract) and given that the process can be performed at atmospheric pressure, it will necessarily be cheaper as a vacuum chamber and apparatus will not be necessary. Thus, the utilization of Spence's method would allow for the plasma treatment conducted in Goedicke in view of Suemitsu's method to be performed in a more cost efficient manner.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Suemitsu as applied to claim 13 above, and further in view of Yasuda et al. (U.S. Pat. No. 4980196, hereinafter referred to as Yasuda).

Regarding claim 17, Goedicke in view of Suemitsu teach all the limitations of claim 13, but may fail to teach the plasma treatment taking place under vacuum (required by claim 17). Yasuda teaches the pretreatment of a steel substrate by a vacuum plasma treatment (see Step 1, columns 3-5) for improved corrosion protection of steel (abstract). It would have been obvious to one of ordinary skill in the art to modify Goedicke in view of Suemitsu's method with Yasuda as Yasuda's specific plasma treatment could be incorporated into Goedicke in view of Suemitsu's method to provide an improvement in the treatment of the coated metal prior to the addition of the second element. One would have been motivated to make this modification as Yasuda teaches that the pretreatment can be used to remove contaminants (column 4, lines 41-46) and could also be used to make it more reactive and provide better adhesion for a coating, which would be beneficial in Goedicke in view of Suemitsu's method as it would allow for Goedicke in view of Suemitsu's coated metal product to have a better deposition of the additional element to it.

5. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Suemitsu as applied to claims 13 and 20 above, and further in view of Hörzenberger (EP 1201321).

Regarding claims 22 and 23, Goedicke in view of Suemitsu teach all the limitations of claims 13 and 20, but fail to teach the radiation being directed to both sides of the sheet for 3-8 seconds with an energy density of at least 400 kW/m^2.

Hörzenberger teaches a method of curing (a thermal treatment) a coating on a metal sheet (0001) comprising using high energy infra red radiation (0014) which can be directed to the outer surface of the coating, specifically both sides of the sheet (0020) and at an energy density of at least 400 kW/m^2 (0014). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view of Suemitsu's method of producing a steel product by implementing Hörzenberger's IR conditions to provide an improved system.

While, Hörzenberger fails to teach the radiation being applied for 3 to 8 seconds, it would have been obvious to one of ordinary skill in the art at the time of the invention that varying this time would vary the temperature to which the product was treated. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed range through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view of Suemitsu's method by directing high energy infra red radiation at both sides of the sheet for the claimed time interval and with the claimed energy density, as taught by Hörzenberger. One would have been motivated to make this modification as Hörzenberger teaches that the use of these IR conditions allows for the entire metal and coating to be heated to a similar temperature in a short time (0026) and for the heating and galvanizing (initial metallic coating application) to be conducted in a single production line (0036), therefore this allows for a reduction in the time required for Goedicke in view of Suemitsu's process and a greater efficiency in the process. Further, it is simply the substitution

of one known thermal treatment (Hörzenberger's infra red radiation treatment) for Goedicke in view of Suemitsu's generic IR treatment, and one having ordinary skill in the art at the time of the invention could have performed this substitution with a reasonable expectation of success, and a predictable result of providing metal coated steel products.

6. Claims 13-15, 17, 18, 20, 22, 23, 25, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke (DE19527515) in view of Bretez (FR2655058).

I. Regarding claims 13-15, 17, 18, 20, 25, and 26, Goedicke teaches a method for the production of metal coated steel sheet products (abstract) comprising the steps of providing a steel product with a Zn coating (abstract), subjecting the product to a plasma treatment (though it doesn't seem to explicitly disclose it being performed under vacuum, it would be readily apparent to one of ordinary skill in the art at the time of the invention to perform this treatment under vacuum, as it is well known in the art to carry out plasma treatments under vacuum in a chamber) to prepare the material (this would necessarily clean and activate the surface of the material, see pg 2 of machine translation, 11th paragraph) prior to adding an additional metallic element, then adding an additional metallic element to the coating (abstract) by diffusing the element into the metallic coating (paragraphs 10 and 11 on page 2), that additional element potentially being magnesium (pg 2 of machine translation, 10th paragraph, this inherently being a reflectivity reducing agent) through a physical vapor deposition technique, specifically sputtering (abstract), and finally subjecting the product to a thermal treatment under an inert atmosphere (abstract) prior to any application of an organic coating on the metal coated surface.

Goedicke fails to teach the thermal treatment being applied by directing high energy infra red radiation towards the outer surface of said coating to diffuse the metallic element into the metallic coating without affecting an interface between the steel substrate and the metallic coating.

Bretez teaches a method of diffusing an additional metallic element into a zinc coating (page 2, lines 18-23) on a metal sheet (page 1, lines 1-2) comprising using infra red radiation (page 4, lines 20-21) which would be directed to the outer surface of the coating and would not affect the interface between the steel substrate and the metallic coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke's method of producing a steel product by implementing Bretez's thermal diffusing step as the thermal treatment. One would have been motivated to make this substitution as one having ordinary skill in the art could have made this substitution with a reasonable expectation of success (particularly given that Bretez teaches that IR heating can be used for diffusion of an additional element into a metallic coating), and the predictable result of providing a intermetallic compound by diffusing the additional metallic element into the zinc coating.

II. Regarding claims 22 and 23, Goedicke in view of Bretez teach all the limitations of claims 13 and 20, but fail to teach the radiation being directed to both sides of the sheet for 3-8 seconds with an energy density of at least 400 kW/m^2. However, these variables would obviously adjust the length of heating time required and the degree to which the additional metal diffuses into the zinc coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process

optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980).

III. Regarding claim 27, Goedicke teaches the method of claim 13, comprising an apparatus for accomplishing the method having means for performing a plasma treatment (pg 2 of machine translation, 11th paragraph), means for adding an additional element to said coating by using a physical vapour deposition technique (abstract). Goedicke fails to teach means for directing high energy infra red radiation. Bretez teaches these means (see above). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke's method with Bretez's means for the reasons and motivation outlined previously.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Bretez as applied to claim 13 above, and further in view of Shimogori et al. (U.S. Pat. No. 5002837, hereinafter referred to as Shimogori).

Regarding claim 15, Goedicke in view of Bretez teach all the limitations of claim 13 and further teach that the additional metallic element is added through sputtering (abstract). Goedicke in view of Bretez may fail to teach the additional metallic element being Mg that is required by instant claim 15.

Shimogori teaches the coating of a Zn-Mg alloy layer over steel sheets (column 7, lines 3-9), demonstrating the benefits of adding Mg as an additional element to a zinc coating on a

steel substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view Bretez's method for the production of a metal coated steel product with Shimogori as the addition of Mg as suggested by Shimogori would provide an improved metal coated steel product. One would have been motivated to make this modification as Shimogori teaches that Zn-Mg alloy plating layers show outstanding corrosion resistance, adhesion to the steel surface, and improved formability (column 7, lines 3-16).

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Bretez as applied to claim 13 above, and further in view of Spence (U.S. Pat No. 6059935).

Regarding claim 16, Goedicke in view of Bretez teach all the limitations of claim 13, but fail to disclose the plasma treatment being a dielectric barrier discharge treatment taking place at a pressure of between 0.1 bar and 1 bar, under an atmosphere consisting of nitrogen or nitrogen and hydrogen that is required by instant claim 16.

Spence teaches a method of generating a plasma (abstract), near atmospheric pressure (abstract, though the claimed range is not explicitly taught it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through routine optimization), which is generated by a dielectric barrier discharge method (abstract and Figure 1) which may be conducted under a nitrogen atmosphere (column 3, lines 20-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view of Bretez's method with the plasma treatment as suggested by

Spence as it would allow for the treatment to be performed near atmospheric pressure. One would have been motivated to make this modification as Spence teaches that the amount of time in performing the treatment is reduced (abstract) and given that the process can be performed at atmospheric pressure, it will necessarily be cheaper as a vacuum chamber and apparatus will not be necessary. Thus, the utilization of Spence's method would allow for the plasma treatment conducted in Goedicke in view of Bretez's method to be performed in a more cost efficient manner.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Bretez as applied to claim 13 above, and further in view of Yasuda et al. (U.S. Pat. No. 4980196, hereinafter referred to as Yasuda).

Regarding claim 17, Goedicke in view of Bretez teach all the limitations of claim 13, but may fail to teach the plasma treatment taking place under vacuum (required by claim 17). Yasuda teaches the pretreatment of a steel substrate by a vacuum plasma treatment (see Step 1, columns 3-5) for improved corrosion protection of steel (abstract). It would have been obvious to one of ordinary skill in the art to modify Goedicke in view of Bretez's method with Yasuda as Yasuda's specific plasma treatment could be incorporated into Goedicke in view of Bretez's method to provide an improvement in the treatment of the coated metal prior to the addition of the second element. One would have been motivated to make this modification as Yasuda teaches that the pretreatment can be used to remove contaminants (column 4, lines 41-46) and could also be used to make it more reactive and provide better adhesion for a coating, which would be beneficial in

Goedicke in view of Bretez's method as it would allow for Goedicke in view of Bretez's coated metal product to have a better deposition of the additional element to it.

10. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goedicke in view of Bretez as applied to claims 13 and 20 above, and further in view of Hörzenberger (EP 1201321).

Regarding claims 22 and 23, Goedicke in view of Bretez teach all the limitations of claims 13 and 20, but fail to teach the radiation being directed to both sides of the sheet for 3-8 seconds with an energy density of at least 400 kW/m^2.

Hörzenberger teaches a method of curing (a thermal treatment) a coating on a metal sheet (0001) comprising using high energy infra red radiation (0014) which can be directed to the outer surface of the coating, specifically both sides of the sheet (0020) and at an energy density of at least 400 kW/m^2 (0014). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view of Bretez 's method of producing a steel product by implementing Hörzenberger's IR conditions to provide an improved system.

While, Hörzenberger fails to teach the radiation being applied for 3 to 8 seconds, it would have been obvious to one of ordinary skill in the art at the time of the invention that varying this time would vary the temperature to which the product was treated. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed range through process optimization, since it has been held that where the general

conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Goedicke in view of Bretez's method by directing high energy infra red radiation at both sides of the sheet for the claimed time interval and with the claimed energy density, as taught by Hörzenberger. One would have been motivated to make this modification as Hörzenberger teaches that the use of these IR conditions allows for the entire metal and coating to be heated to a similar temperature in a short time (0026) and for the heating and galvanizing (initial metallic coating application) to be conducted in a single production line (0036), therefore this allows for a reduction in the time required for Goedicke in view of Bretez's process and a greater efficiency in the process. Further, it is simply the substitution of one known thermal treatment (Hörzenberger's infra red radiation treatment) for Goedicke in view of Bretez's generic IR treatment, and one having ordinary skill in the art at the time of the invention could have performed this substitution with a reasonable expectation of success, and a predictable result of providing metal coated steel products.

Conclusion

Claims 13-27 are pending.

Claims 19, 21 and 24 are withdrawn.

Claims 13-18, 20, 22, 23 and 25-27 are rejected.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT S. WALTERS JR whose telephone number is (571)270-5351. The examiner can normally be reached on Monday-Thursday, 9:00am to 7:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Barr/
Supervisory Patent Examiner, Art Unit 1711

/ROBERT S. WALTERS JR/
May 17, 2010
Examiner, Art Unit 1711